

Features of the program

Within the educational program **123 Computer Engineering** we train highly professional specialists the basics of algorithmization and programming, computer electronics and circuitry, computer architecture and its software, the basics of computer networks, command shells, administration, database management and web project development.

Sphere of professional activity usage:

- design and administration of computer systems and networks;
- database management and WEB-servers
- development of system software and applied programming in C++, C#, Java, JavaScript;
- design of information security systems
- organization of information security service of enterprises;
- installation, configuration, operation and maintenance of information system components;
- monitoring and testing of information systems.

General information

Code and title of field of study: **12 "Information technologies"**

Code and title of specialty (program subject area): **123 "Computer Engineering"**

Language of instruction: **English**

Educational level: **Bachelor**

Duration: **3 years 10 months (8 semesters)**

Number of credits: **240 credits ECTS**

List of professional components of the educational program 123 Computer Engineering

- Programming
- Computer logic
- Data structures and algorithms
- Methods of calculations and modeling
- Computer electronics and circuitry
- Object-oriented direction
- System programming
- Computer architecture
- Computer networks
- System software
- Computer systems
- Computer networks
- Software engineering
- Computer systems of artificial intelligence
- Web programming
- Computer systems design technologies
- Information security in computer systems
- Fundamentals of scientific research

List of elective components of the educational program 123 Computer Engineering

- Social engineering
- Information and coding theory
- IT startups
- Testing and diagnostics of software and hardware
- Development of multimedia and game systems
- Programming algorithms for digital signal and image processing
- Theory of formal languages and digital automata
- Operations research and queuing theory
- Python programming
- Internet of Things
- Analysis of big data and knowledge
- Cross-platform programming
- Ergonomics and search engine optimization in web design
- Software for business process automation
- New software systems
- Peripherals
- New programming technologies
- IT project management
- Basics of SEO
- Fundamentals of computer design
- Fundamentals of the theory of automatic control
- Basics of programming using a network interface
- Cybersecurity
- Computer modeling and forecasting technologies
- Hard and soft skills in the field of IT
- Software engineering
- Applied software in education
- VBA programming
- Databases
- Professional English: Computer Technologies
- Digital image processing and computer vision
- Information technology and basics of teamwork in IT
- Soft Skills: aspects of professional competencies
- Software and hardware of mobile devices

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